Remarks

Claims 1-21 were previously cancelled. Claims 22-24, 29-31 and 36-38 have been cancelled above. Claims 25, 32 and 39 have been written in independent form including all the limitations of the respective base claims; there were no intervening claims. No substantive amendment was made to claims 25, 32 and 39. Claims 26-28 were amended to depend on claim 25 instead of claim 22. Claims 33-35 were amended to depend on claim 32 instead of claim 29. Claims 40-41 were amended to depend on claim 39 instead of claim 36. Some extraneous language was deleted at the end of claim 41.

Claims 25, 32 and 39 were rejected based on Oxman et al. in view of Uchiyama et al. Applicants respectfully traverse this rejection based on the following.

Claim 25 recites a method of forming a bonded assembly. An IC chip is positioned adjacent to a substrate with a thermosetting adhesive between the IC chip and the substrate to adhere the IC chip to the substrate. The substrate comprises an epoxy resin reinforced with fiberglass. The substrate is irradiated with near infrared light toward the IC chip such that some energy of the light is absorbed by the substrate and some energy of the light passes through the substrate to the adhesive to partially cure the adhesive. Claim 25 also recites the step of halting the irradiating step after the adhesive is heated to a predetermined, curing temperature, and after the halting step, cooling the assembly to substantially room temperature and **applying pressure on the IC chip toward the substrate during substantially the entirety of the cooling step**. This is described in the specification of the present invention,

"When thermosetting ACF 24 is heated up to a specified temperature, irradiation of near infrared rays 36 is terminated. In the next step, silicon chip 21 and array substrate 23 are pressed together by pressure indirectly applied to silicon chip 21 by pressurizing block 11 (S 105). As understood, substrate 23 is firmly supported by block 15. Thereafter, silicon chip 21, thermosetting ACF 24 and array substrate 23 are cooled to room temperature (S 106). Here, silicon chip 21 and the glass component that constitute array substrate 23 have

approximately the same degrees of contraction. Thus, in this cooling process, an unacceptable temperature difference (gradient) between the silicon chip and array substrate is prevented in order to achieve such uniform contraction." Page 14 line 24 to page 15 line 6.

In contrast, **Uchiyama et al. teach the removal of the pressure during cooling below 150 degrees C**:

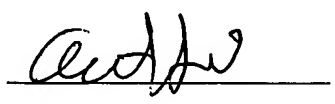
"The bonding conditions include a temperature 220 degrees C, a pressure of 5 gf/mm squared, and a time of 20 seconds. The quality of the light applied and the pressure are set so as to establish these conditions. Then, heating by the light 13 is stopped to decrease the temperature to 150 degrees C under pressure by the bonding tool 4 and **pressing by the bonding tool 4 is then stopped..**" (Emphasis added) Column 14 lines 20-27

Thus, Uchiyama et al. teach that the pressure is maintained only until the temperature drops to 150 degrees C, not during subsequent cooling. In contrast, claim 25 recites that the pressure is applied until the assembly is cooled to substantially room temperature. Therefore, Uchiyama et al. teach away from the present invention, and claim 25 would not have been obvious in view of Uchiyama et al.

Claims 32 and 39 similarly distinguish over Oxman et al. and Uchiyama et al.

Based on the foregoing, Applicants request allowance of the present patent application as amended above.

Respectfully submitted,



Fax: (607) 429-4119
Phone: (607) 429-4119

Arthur Samodovitz
Reg. No. 31,297